supply, which I will exchange for U. S. species not in my herbarium, or will sell at ten cents a specimen.—J. W. CHICKERING.

CARNIVOROUS PLANTS.—The advance of science and of human insight into the workings of Nature compel us to admit what seems at first almost incredible, that it is as natural and normal for some plants to derive their sustenance from the animal tissues by a true process of feeding, as it is for the animal to feed upon plants and gain maturity and strength thereby.

The fact that certain plants, such as *Drosera*, *Dionæa*, *Sarracenia*, *Utricularia* and others, obtain at least a portion of their nourishment from animal food by process of digestion, absorption and assimilation, has been developed more during the last generation than at any previous time, although the peculiarities of one of these plants were known and noted during the latter part of the eighteenth century. Dr. Darwin tells us that the oldest and most valuable paper published previous to 1860 was written by Dr. Roth in 1782. Much has been recorded, in a general way, in our various journals, concerning these plants, but only a small proportion of these papers are of much value.

However, interesting as the discussion of the bibliography of this subject in its various relations and a review of the arguments both for and against the carnivorous characters of these plants, would be, it is not my intention to enter into a consideration of the general subject, even if space would permit, but to simply record my experiments and observations upon the interesting division of these plants—the genus *Sarracenia* and the family *Droseraceæ*. For an extended review the reader is referred to Darwin's work on the "Insectivorous Plants," and also to articles in Gray's Darwiniana.

It is the intention to publish these records in series, divided according to the time and purpose of experimenting and observations.

At the head of each series notes explanatory in general of all the experiments enumerated will be given.

SERIES I. Experiments on *Drosera rotundifolia*.

General observations. The plants upon which experiments were instituted in this set were under cultivation. The surrounding conditions were, as near as it was possible to make them, the same as those in which they grow naturally.

The amount of light, moisture and air was regulated with great care. The plants were watered at 8 a. m. and 6 p. m., daily, throughout the entire time of experimenting. It is worthy of note that the plants blossomed also during this time

As to the size of the leaves and the general vigor of the plants, they were the *finest* specimens that I could find. They were obtained at a lake, three miles west of Ann Arbor, Mich.

EXPERIMENT No. 1.—A piece of an angle worm was placed upon the center of a leaf at 2 p. m., June 4th, 1879.

15 min. no change.

30 " submarginal tentacles inflecting and a few nearest the substance were touching it.

45 min. the submarginal tentacles on one side of the leaf were much inflected, so as to touch the specimen.
60 " the same as the last, except the upper submarginal tentacles begin to inflect.
90 " marginal t. beginning to inflect.
2 hrs. only a slight change.
2½ " the submarginal t. nearly all inflected, and these nearest the substance touching it.
3½ " slight change among the marginal t.
18 " the submarginal and marginal tentacles inflected so as to touch the specimen on one side; the remainder inflecting slowly.
24 " change only slight.
38 " all the submarginal inflected and touching the substance, and, also, nearly all the marginal tentacles.
48 " all the tentacles inflected, touching the substance; the edges of the tentacles are also slightly inflected
66 " tentacles and edges of the leaf closely clasping the specimen.
123 " the same as the last, except the edges of the leaf are beginning to reflex.
159 " edges of the leaf reflexing slowly, but all of the t., except a few marginal ones, are still inflected.
166 " leaf gradually opening.
216 " leaf nearly expanded, but most of the t. still inflected somewhat.
302 " tentacles reflexing rapidly.
312 " tentacles, both disk, marginal and submarginal, on one side much reflexed.
326 " tentacles apparently dried not much reflexed from the last.
408 " no change, excepting that the ones already partly reflexed are more so.
528 " tentacles considerably dried; leaf without color; substance dried; no secretion.
600 " leaf and tentacles still somewhat inflected, but all parts apparently gradually opening.
648 " same as the last; a white mould present on the leaf; tentacles, especially the ends of some, dry; no secretion.
672 " no mould present; one side of the leaf dry and dead.
768 " leaf completely dried and dead. - W. K. HIGLEY, *Ann Arbor, Mich.*

BROWN UNIVERSITY HERBARIUM.—In addition to the classical herbarium of the late Stephen T. Olney, bequeathed to Brown University, together with a fund for its increase and for the maintenance of the botanical library, the college has, within a few weeks, received from Mr. James L. Bennett, of Providence, a gift of his herbarium of 13,000 species. This valuable collection has been amassed during thirty years of unremitting labor as a side occupation. In it are rep-